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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,443	02/18/2000	Tetsuji Kawazura	P21-9056	8222

7590 08/21/2003

ARENT FOX KINTNER PLOTKIN & KAHN
1050 Connecticut Avenue, N.W. Suite 400
Washington, DC 20036-5339

EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 08/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/506,443

Applicant(s)

KAWAZURA ET AL.

Examiner

Jeffrey C. Mullis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13 is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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All previous rejections have been withdrawn.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Raimondi et al. (USP 4,042,555).

Raimondi et al. disclose a composition containing polyalphamethylstyrene, a polystyrene block copolymer and a low molecular weight polybutene (Table 1 column 2 as well as the Abstract). Note Table IX for a composition containing a minor amount of polybutene and a major amount of Kraton 1107 (a styrene-isoprene block copolymer having a molecular weight much higher than the polybutene).

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Vo (USP 5,422,378), cited of interest discloses that Amoco 18-290 (such as is used by Raimondi et al., cited above) has a weight average molecular weight of 11,900 at column 6 lines 14-18.

Kaelble, USP 4,123,409, discloses that Kraton 1107 has a molecular weight of 50,000-84,000 at column 4 lines 19-33.

Claims 14-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Futamura (USP 778,852).

Futamura discloses a composition containing a block copolymer and a rubber such as butyl rubber (as in applicants' "BR" of applicants' claim 17). Note the Abstract. The block copolymer may contain mostly polybutadiene and a styrene containing block and have a molecular weight of 20,000-500,000 at the paragraph bridging columns 4 and 5. The block copolymer may be made by polymerization using butyl lithium, a method known to give narrow polydispersities, i.e. polymers with weight average molecular weights and number average molecular weights which are similar. Note column 5 line 30 et seq. for the method. The rubber may have a weight average molecular weight of for instance 188,000 at column 9 lines 35-40. Since a block copolymer having mostly a polybutadiene block (which would be compatible with the EPDM of patentees) would contain a polybutadiene block having a molecular weight of greater than 250,000, the limitations of applicants' equation are met. Butyl rubber meeting the molecular

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weight limitations of applicants' equation may be used at column 9 lines 53-59 when utilizing the highest molecular weight block copolymer disclosed by Futamura.

No examples are disclosed having applicants' specific combination of block copolymer and rubber are present which clearly meet applicants' weight average molecular weight limitations of applicants' equation. However Futamura broadly discloses that such materials may be used and therefore it would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to use block copolymers in combination with rubbers which meet the limitations of applicants' equation in the expectation of adequate results absent any showing of surprising or unexpected results.

Applicants' remarks are moot since all previous rejections have been withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (703) 308-2820. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (703) 308-2462. The fax phone number for this Group is before final (703) 872-9310 and after final (703) 8729311.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

J. Mullis:cdc

August 7, 2003

Jeffrey Mullis
Primary Examiner
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A handwritten signature in black ink, appearing to be 'JM', located below the printed name and title of the examiner.